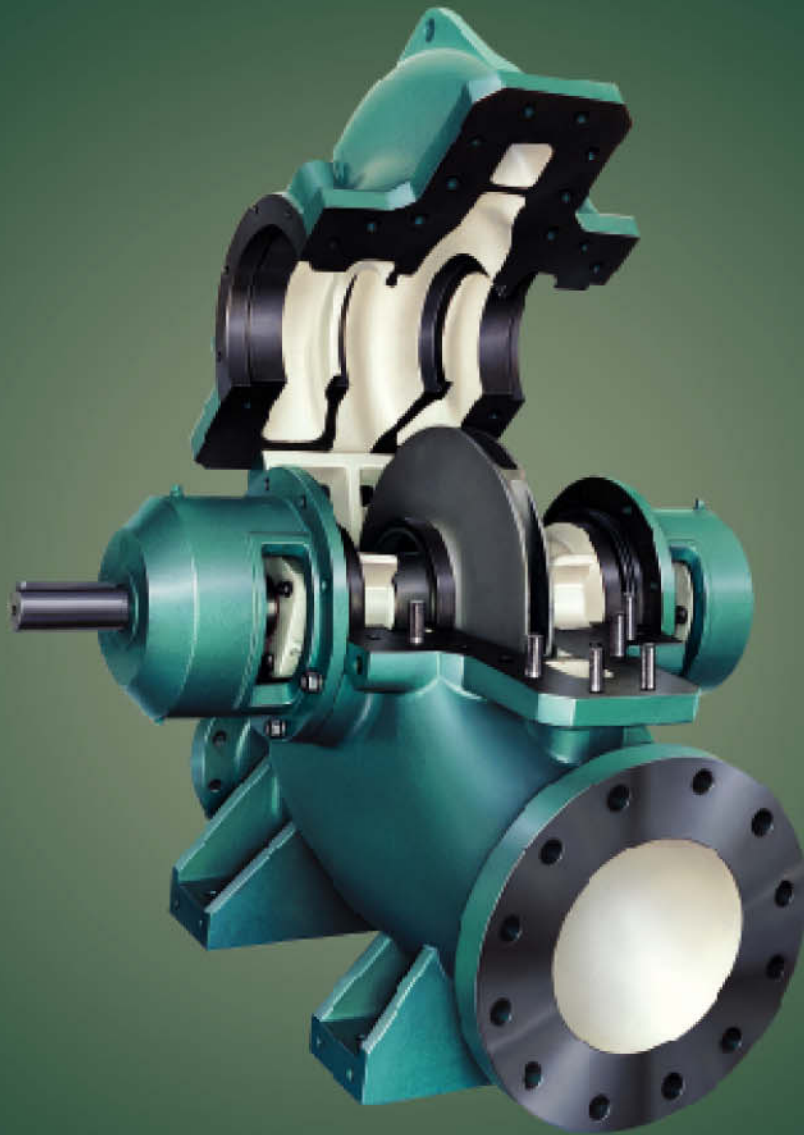


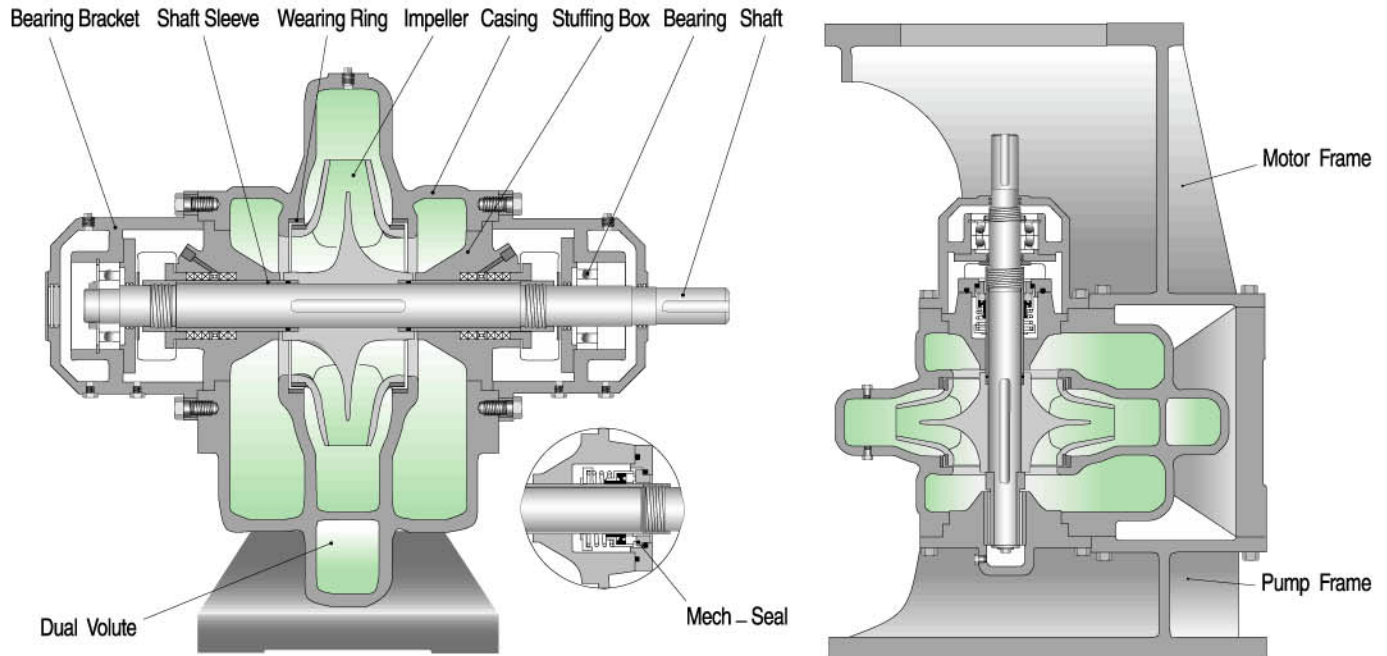
# Acme Pumps

HVS Horizontal Split Case  
Centrifugal Pumps



16 or 20 Bar Working Pressure Available in Cast Iron, Bronze, Cast Steel or Stainless Steel  
ANSI, DIN, JIS, or PN Standard Flanges Suitable for Horizontal or Vertical Mounting

# Features



## Casing

Suction and discharge flanges available in ANSI, DIN, JIS, or PN Standard. They are integrally cast into lower half casing. This allows for removal of rotating assembly without disturbing the piping system. Dual volute design available in selected sizes, which eliminates radial force acting on shaft. This provides extended seal and bearing life.

## Impeller

Dynamically and hydraulically balanced impeller designed using the latest CFD technique ensures high efficiency and quiet operation throughout the entire operation range.

## Shaft

Oversize shaft with short shaft span between bearings minimizes shaft deflection and extends the seal and bearing life.

## Casing & Impeller Wear Rings

Replaceable wear rings protect pump casing and impeller from wear. They can be replaced at relatively low cost to maintain proper running clearance and high operating efficiency.

## Shaft Sleeve

Replaceable shaft sleeves in different materials are available for all ACME HVS pumps to protect the shaft against corrosion and wear.

## Stuffing Box

ACME unique stuffing box design permits the use of packing or mechanical seal. Seal maintenance can be done without disturbing the pump casing.

## Bearings

Grease or oil-lubricated bearings with minimum 100,000 Hrs L-10 rated bearing life. Double row thrust bearings and seal-for-life grease bearings are also available.



# Materials of Construction

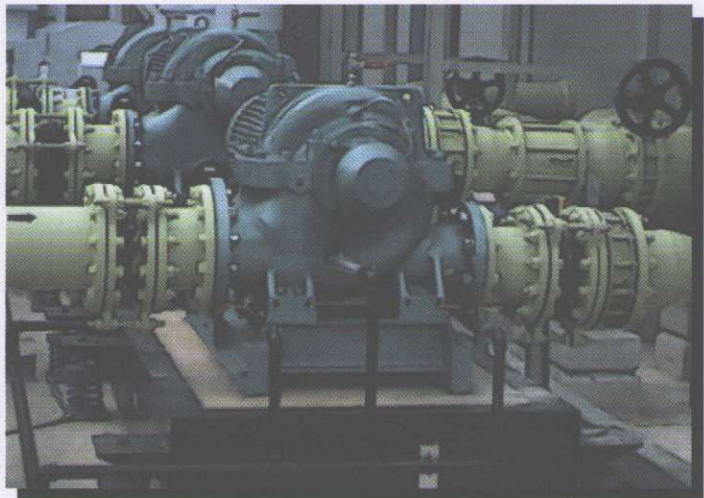
Parts	Standard Fitted	Stainless Steel Fitted	All Bronze Fitted
Casing	Cast Iron	Stainless Steel	Bronze
Casing Wear Ring	Cast Iron	Stainless Steel	Bronze
Casing Gasket	Fiber	Teflon or Fiber	Teflon or Fiber
Impeller	Stainless steel	Stainless Steel	Bronze
Impeller Ring ( Optional)	Stainless Steel	Stainless Steel	Bronze
Impeller key	Stainless Steel	Stainless Steel	Stainless Steel
Shaft Sleeve	Stainless Steel	Stainless Steel	Stainless Steel
Shaft Sleeve Lock Nut	Stainless Steel	Stainless Steel	Stainless Steel
Seal Cage	ABS	ABS	ABS
Packing	Graphite Asb	Teflon	Graphite Asb
Packing Gland	Cast Iron	Stainless Steel	Bronze
Mechanical Seal Gland	Cast Iron	Stainless Steel	Bronze
Mechanical Seal	Carbon Vs Ceramic	Carbon Vs Ceramic	Carbon Vs Ceramic
Bearing Lock Nut & Washer	Steel	Steel	Steel
Bearing Bracket	Cast Iron	Cast Iron	Cast Iron
Bearing Cover	Cast Iron	Cast Iron	Cast Iron

Stainless Steel Available in 304, 316 and Duplex

Other Materials include Aluminium Bronze, Steel, Monel, Hastelloy



**Typical industries served.**  
**process, public works, building services,**  
**petroleum, fire protection, phamaceuticals,**  
**food, steel, agriculture, sugar, pipe line**





# Typical Specifications

## 1. Casing

The casing shall be of the volute type and designed to produce a smooth flow with gradual changes in velocity. The casing shall be split on the horizontal center line with the suction and discharge nozzles and casing feet cast integral with the lower casing half. The interior of the pump shall be easily inspected by removing the upper half of the casing. This shall be done without disturbing the pipe connections or pump alignment. The flanges between the halves will be sealed by a pre-cut gasket. The upper and lower halves of the casing shall be accurately located by using straight dowel pins to eliminate mismatch between the upper and lower halves which would otherwise impair both hydraulic and mechanical performance. The casing shall be hydro-tested to one and one half times the working pressure.

## 2. Impeller

The impeller shall be of a double-suction enclosed type made of bronze or stainless steel using a unique precision casting technique. The surface finish of the waterway should be Ra 25 or better to ensure smooth flow and high efficiency. It shall be hydraulically balanced in its inherent design. The impeller shall be firmly secured to the shaft by a key positioned by shaft sleeves and both locked in place by shaft sleeve lock nuts. The complete pump rotor shall be dynamically balanced.

## 3. Renewable Casing & Impeller Rings

Renewable casing rings shall be locked in place and protected against rotation by Stainless Steel pins. Impeller Rings – Securely held impeller rings can be supplied as an option.

## 4. Stuffing Box

The stuffing box shall be separated from the pump casing and accurately machined and fitted to the casing by the bearing bracket.

## 5. Shaft Sleeve

Renewable shaft sleeves made of stainless steel which extend through the stuffing box shall be provided. They shall be securely keyed and held in place with shaft nuts incorporating set screws for locking purposes. Shaft sleeves shall be provided and sealed with "O" rings at impeller end.

## 6. Shaft

The shaft shall be stainless steel, ground to accurate dimensions and polished to a smooth surface. The shaft shall have the same nominal diameter from one shaft sleeve lock nut to another to minimize fatigue failure due to stress concentration. The shaft sleeves shall protect the shaft at the stuffing boxes. The sleeves shall be secured in lateral position with external shaft nuts. The impeller keys shall extend into the hub of the shaft sleeves to prevent slippage between the shaft and the sleeves. Sealing to protect against leakage under the shaft sleeve shall be achieved by the use of "O" Ring type seals, located at the keyed end between the sleeve and the shaft. Shaft shall be adequately sized and designed to minimize deflection. The maximum run-out of shaft at stuffing box face shall not exceed 0.05mm at shut-off.

## 7. Bearings

The bearings shall be single-rowed, deep-grooved type ball bearings. They shall be designed and sized for at least 300,000 hours calculated minimum L10 rated bearing life at shut-off. Each bearing shall be capable of carrying both line and thrust type loads. The thrust bearings shall be securely held to the shaft by a bearing lock nut and washer.

## 8. Bearing Brackets

The bearing brackets shall be separated from the pump casing and accurately machined and doweled to the casing. Oil or grease lubrication shall be provided. Grease gun fittings shall be standard on grease-lubricated pumps and a constant-level oiler shall be standard on oil lubricated pumps. Conversion from grease to oil shall be easily accomplished by simply removing the grease fittings and installing a constant-level oiler and vent. Pump design shall allow bearing to be removed without disturbing upper casing for inspection and replacement of bearings, mechanical seals and shaft sleeves.

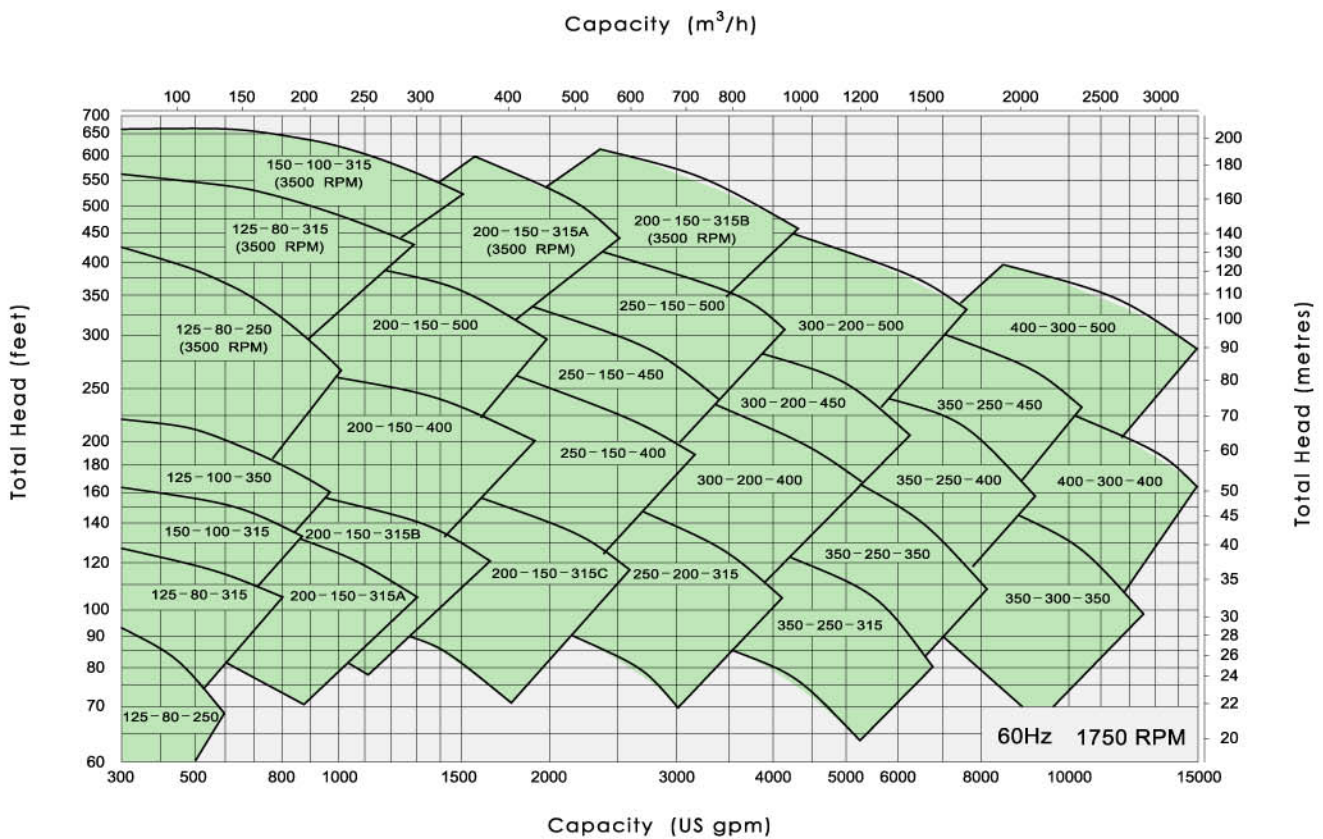
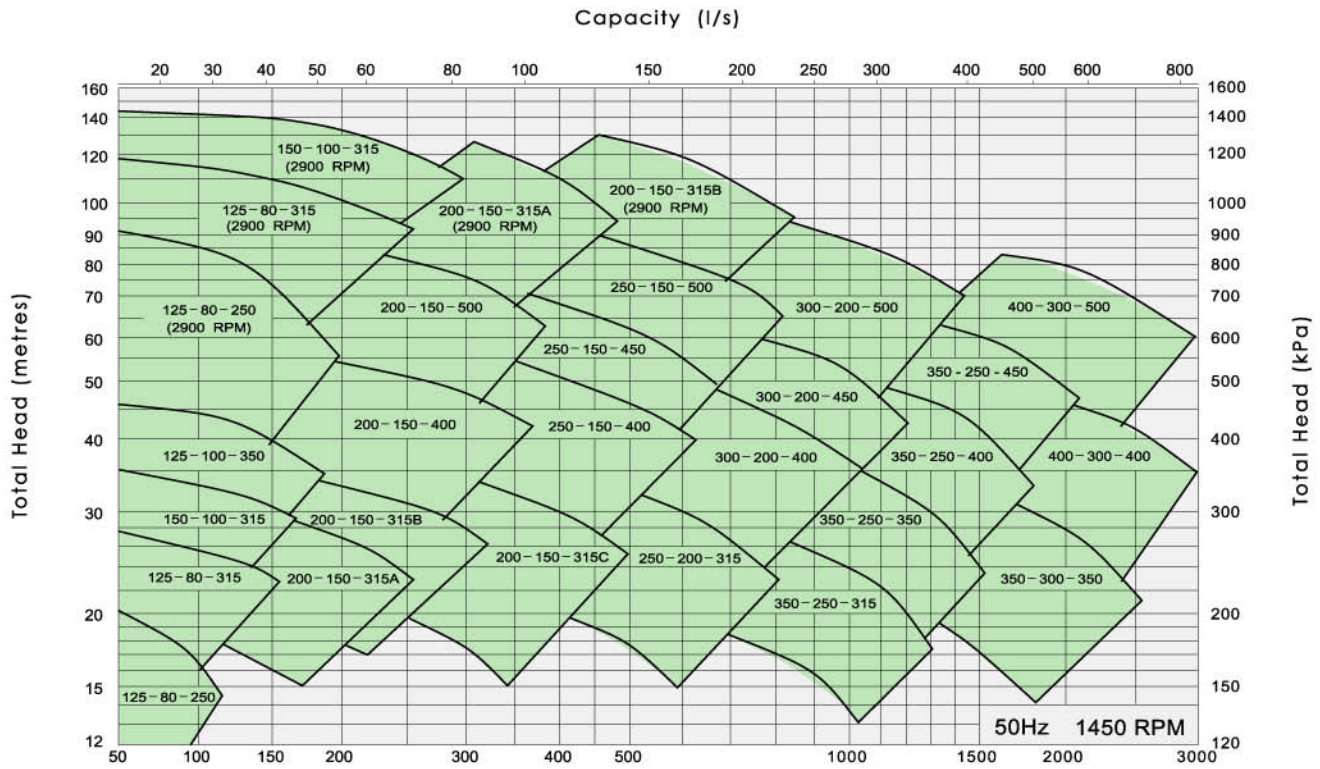
## 9. Mechanical Seals

Stuffing boxes shall be designed to accommodate mechanical seals.

## 10. Casing Feet

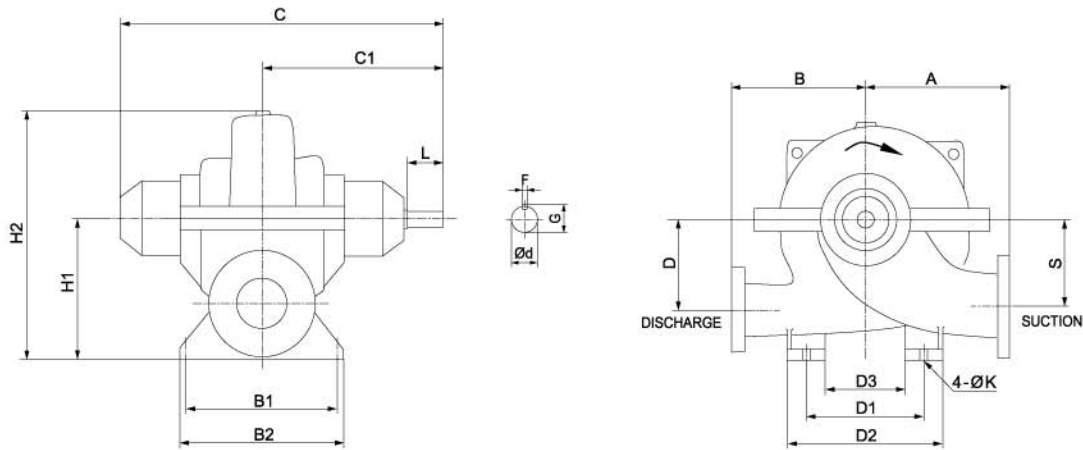
The casing feet shall be integrally cast with the lower casing and be immediately adjacent to suction and discharge flanges in order to transmit any pipe strain loads to the base and foundation.

# Coverage Charts





# Dimensions



Pump Size	Diameter		Pump Dimensions														Shaft Dimensions					Wt. (kg)
	Suc.	Dis.	A	B	C	C1	D	S	H1	H2	B1	B2	D1	D2	D3	ØK	Ød	L	F	G		
125-80-250	125	80	300	280	690.5	375	185	135	300	498	220	280	285	380	190	24	27	60	8	30.3	173	
125-80-315	125	80	320	285	690.5	375	200	175	310	525	220	280	285	380	190	24	27	60	8	30.3	205	
150-100-315	150	100	330	305	829	452	200	165	335	543	280	330	320	420	230	24	42	80	12	45.3	287	
200-150-315A	200	150	380	355	829	452	230	210	405	680	280	330	356	480	230	24	42	80	12	45.3	357	
200-150-315B	200	150	400	350	933	522.5	230	230	410	672	315	376	340	480	200	24	48	110	14	51.8	393	
200-150-315C	200	150	420	350	933	522.5	240	240	420	670	315	376	340	480	200	24	48	110	14	51.8	397	
250-200-315	250	200	460	400	971	539.5	265	280	495	770	350	410	400	540	260	24	48	110	14	51.8	516	
350-250-315	350	250	550	500	1011	560	310	380	650	970	380	450	500	640	360	24	48	110	14	51.8	746	
125-100-350	125	100	390	340	732	396	240	225	360	620	250	302	320	420	220	24	30	60	8	33.3	260	
350-250-350	350	250	600	550	1184	660	350	375	645	983	440	506	550	700	400	28	60	140	18	64.4	890	
350-300-350	350	300	700	550	1291	718	450	420	700	1086	550	620	550	700	400	28	65	140	18	69.4	950	
200-150-400	200	150	400	350	807	451.5	255	260	440	708	270	330	375	500	250	24	42	80	12	45.3	358	
250-150-400	250	150	450	400	937	522.5	270	270	485	771	315	376	400	540	260	24	48	110	14	51.8	495	
300-200-400	300	200	485	440	967	542.5	300	300	535	839	350	416	460	600	320	24	48	110	14	51.8	613	
350-250-400	350	250	600	550	1184	660	360	360	630	970	440	506	550	700	400	28	60	140	18	64.4	910	
400-300-400	400	300	750	650	1460	814	530	470	780	1230	650	720	750	900	600	28	70	170	20	74.9	980	
250-150-450	250	150	527	429	1027	571	328	263	523	863	380	450	480	628	320	24	54	110	16	58.3	673	
300-200-450	300	200	530	455	1027	571	326	273	565	925	380	450	500	640	360	24	54	110	16	58.3	693	
350-250-450	350	250	600	550	1184	660	365	365	635	996	440	506	550	700	400	28	60	140	18	64.4	962	
200-150-500	200	150	500	450	937	522.5	325	310	490	829	315	376	400	540	260	24	48	110	14	51.8	526	
250-150-500	250	150	500	450	1103	620	335	275	500	845	355	425	500	640	360	28	60	140	18	64.4	662	
300-200-500	300	200	550	450	1188	663	380	320	565	910	440	510	500	640	360	28	65	140	18	69.4	756	
400-300-500	400	300	750	650	1470	820	460	400	710	1165	650	720	750	900	600	28	80	170	22	85.4	950	

We reserve the right to amend designs without notice.